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BRUHAT BANGALORE MAHANAGARA PALIKE

Project:Providing Sanitary works in Ward No.8 - Kodigehalli

Est Cost: = 160Lakh

Estimate for the Work of Providing & Replement of (400mm dia RCC NP3 Class pipe) UDD Pipe Line at Kodigehalli in Ward No.8 - Kodigehalli

Sl No	Description of Work	Unit	No	Length	Breadth	Depth	Quantity	Rate	Amount
1	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN ALL KINDS OF SOIL MIXED WITH BOULDERS of 30 cms size, etc. for:Pipes of all dia.	Cum					Total Depth		
	a) For depth upto 2.0 M in all types of soils Note : If any shoring and strutting, will be paid separately (BWSSB SR 17-18 No: 1.1 Code:A050A) Page 51								
	MH 6-7		1	42.80	1.00	2.00	85.60		
	MH 7-8		1	36.60	1.00	2.00	73.20		
	MH 8-9		1	41.40	1.00	2.00	82.80		
	Deduct road Cutting						(30.20)		
				120.80			211.40		
	Deduct item 2a						(31.71)		
	Deduct item 3a						(21.14)		
							158.55	167.00	26477.85
	b) Pipes of all dia. for depth 2.0 to 4.0 M in all types of soils Note : If any shoring and strutting, will be paid separately (BWSSB SR 17-18 No.1.2 Code:A050B) Page 51	Cum							
	MH 6-7		1	42.80	1.00	1.10	47.08		
	MH 7-8		1	36.60	1.00	1.10	40.26		
	MH 8-9		1	41.40	1.00	1.10	45.54		
				120.80			132.88		
	Deduct item 2b						(19.93)		
	Deduct item 3b						(13.29)		
							99.66	225.00	22423.50
2	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN DISINTEGRATED ROCK, SOFT ROCK, SOFT SHALE AND MEDIUM HARD ROCK COMPRISING OF LIME STONE, SAND STONE, HARD SHALE, SCHIEST, FISSURED ROCK without resorting to blast etc. for Pipes of all dia.								
	a)For depth upto 2.0 M Note : If any shoring and strutting, will be paid separately(BWSSB SR 17-18 No. 2.1 Code:A055A) Page 51 Considering 15% of Earth work Quantity	Cum	**Considering 15% of Earth work Quantity**				31.71	404.00	12810.84
	b)For depth 2.0 to 4 M Note : If any shoring and strutting, will be paid separately(BWSSB SR 17-18 No. 2.1 Code:A055B) Page 51 Considering 15% of Earth work Quantity	Cum	**Considering 15% of Earth work Quantity**				19.93	460.00	9168.72

	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN HARD ROCK BY CHISTELLING TO PROPER SLOPE etc. for:	Cum							
	a) Pipes of all dia. for depth upto 2.0 M Note : If any shoring and strutting, will be paid separately. (BWSSB SR 17-18 No. 2.1 Code:A068A) Page 52 Considering 10% of Earth work Quantity			10 % OF ITEM-2			21.14	1,487.00	31435.18
	b) Pipes of all dia. for depth 2.0 to 4.0 Mtrs. Note : If any shoring and strutting, will be paid separately. (BWSSB SR 17-18 No. 2.1 Code:A068A) Page 52 Considering 10% of Earth work Quantity	Cum		10 % OF ITEM-2			13.29	1,602.00	21287.37
4	REFILLING OF EARTH around pipelines, in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering all lead and lift including cost of all labour including consolidation by mechanical means approved by the Engineer in charge, when earth is at suitable moisture content with desired field density upto 95% maximum dry density (modified heavy proctor test) for restoration of roads without settlement including HOM of machineries, complete. (The contractor shall take care while consolidating the earth, so that, pipes laid are not damaged due to mechanical compaction and shall restore the damaged pipes at his own cost, in case of damage) etc. with: Approved earth available nearby, lead upto 100 M and lift upto 1.5 M. Note: In exceptional cases, earth may be obtained from borrow pit with extra lead, duly obtaining approval from the Chief Engineer **(BWSSB SR 17-18 No. 14.1 Code:A095A) Page 56**	Cum							
	Total E.W.E 0-2 mtr depth						211.40		
	Total E.W.E 2-4 mtr depth						132.88		
	Total E.W.E [A]						**344.28**		
	Deductions								
	Pipe Volume = 0.785X0.55X0.55X Total length of pipe						28.69		
	Manhole Volume, PCC = 3.142 x 2.49 x 2.49 x .25 x No of Manholes						19.48		
	Manhole Volume = .785 x 1.9 x 1.9 x 3 x No of Manholes						34.01		
	Bedding						18.12		
	Providing Wet Mix Macadam						18.12		
	Total Deductions [B]						**118.41**		
	Refilling qty [C] = [A]- [B]						**225.87**		
	Total Rate = Basic + AW = Rs 100 +6%AW= Rs 106.0						**225.87**	103.00	23264.36
5	Cutting road surfaces for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the classifications for:**Macadam Roa** **(BWSSB SR 17-18 No. 16.2 Code:A105A) Page 56**	Cum							
	MH 6-7		1	42.80	1.00	0.25	10.70		
	MH 7-8		1	36.60	1.00	0.25	9.15		
	MH 8-9		1	41.40	1.00	0.25	10.35		
	Total Rate = Basic + AW = Rs 374 +6%AW= Rs 396.44			120.80			30.20	859.00	25941.80
6	KSRB 4-1.7 : Providing and laying in position plain cement concrete of Mix 1:3:6 with OPC @ 220kgs, with 20mm and down size graded granite metal coarse aggregates @0.69 cum and fine aggregtes @ 0.56cum, machine mixed, concrete laid in layers not exceeding 15 cms.thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2 **Bedding for pipeline** (KPWD SR 18-19 ITEM 4.7 PAGE-13)	Cum							
	MH 6-7		1	42.80	1.00	0.15	6.42		

	MH 7-8		1	36.60	1.00	0.15	5.49		
	MH 8-9		1	41.40	1.00	0.15	6.21		
	Total Rate = Basic + AW = Rs 4424.0 +6%AW= Rs2145.44						18.12	4,689.00	84964.68
7	Providing and installing sheet piling for both sides of the trenches for following depths with mild steel sheets of not less than 6.5 mm thick, stronger knife edge, recessed spreader sockets, 3 inch single or double wall shields, to be designed by the contractor to withstand all types of soils, maximum depth as per the approved design drawings, including labour charges for installing and removing the sheet piling at various reaches of sewer line constructions, including loading, unloading, transporting to the suitable location etc. complete with all lead and lifts. (Measurement shall be taken for one side only even though it is provided for both sides). For depth upto 3.0 m **(BWSSB SR 17-18 Code:T470A)**	SQM					**120.80**	531.00	64144.80
8	Carting of excavated earth of all types upto a distance mentioned below and re-carting back the earth to the same site by vehicle including loading, unloading charges for to & fro, with all lifts, labour, HOM of machinery etc. complete, after obtaining the approval of the Chief Engineer, for: 19.2) Distance 4 to 5 KM **(BWSSB SR 17-18 Code:A110E)**	Cum					**180.00**	335.00	60300.00
9	Disposal off the excess excavated earth of all types by vehicle including loading, unloading with all lead and lifts, labour, HOM of machineries etc. for: **Distance of 10 KM** **(BWSSB SR 17-18 Code:A115E)**	Cum							
	Pipe Volume = 0.785X0.55X0.55X396						28.69		
	Manhole Volume, PCC = 3.142 x 2.49 x 2.49 x .25 x 3						14.61		
	Manhole Volume, PCC = 3.142 x 2.19 x 2.19 x .25 x 3						11.30		
	Manhole Volume = 3.142 x 1.5 x 1.5 x .25 x 3.2 x 3						16.97		
	Manhole Volume = 3.142 x 1.4 x 1.4 x .25 x 2.2 x 3						10.16		
	Bedding using Approved stone dust						18.12		
	Providing Wet Mix Macadam						18.12		
	Total						117.97	243.00	28665.74
10	Supplying S&S RCC SPUN / VIBRATED CAST PIPES (REINFORCED) pipes NP-3 Class conforming to IS:458-1988 with latest amendments using ordinary portland cement, for sanitary works and conveying to work site, rolling and lowering into trenches, laying true to line and level including loading and unloading at both destinations and jointing of pipes and specials including cost of specials, perfect linking of joints with jack to correct position including cost of jointing materials, i.e, rubber rings conforming to IS: 5382 for S&S RCC pipes, with all leads and lifts as directed and giving necessary hydraulic test as per ISS to the required pressure and commissioning etc. complete. (Contractor will make his own arrangements for procuring water for testing). Before the execution of the work, the contractor shall carry out the survey and will be paid extra for the same as per seperate item.: **RCC NP3 Class pipe of 400 mm dia.** **(BWSSB SR 17-18 Code:T050B)**	m		C/C length	Deduct MH Dia		**Qty = C/C Length - MH Dia**		
	MH 6-7		1	42.80	1.00		41.80		
	MH 7-8		1	36.60	1.00		35.60		
	MH 8-9		1	41.40	1.00		40.40		
	Total			120.80			117.80	1,953.00	230063.40

11	Providing and constructing "WIRE CUT BRICK MANHOLE CHAMBERS" using suplhate resistant cement, coNickel in shape at top, with CC 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15M alround the chamber. Construct Brick masonry in CM 1:4, 340 mm thick, with wirecut bricks of approved quality, plaster inside and out side with CM 1:3, 12 mm thick, except for the coNickel surface outside where the plaster thickness shall be 20 mm. Slope inside to be 1:6 in the concrete towards central drain and finished smooth. Fixing of pipes in CC 1:2:4 with graded metal of 20 mm and down size. Supplying and fixing SFRC manhole frame and cover conforming to IS:12592 with latest amendment, in CC 1:2:4. Supplying and fixing footsteps made of 12 mm dia. steel bars (Fe-415) with 3 mm thick plastic encapsulation (IS-10910). The footsteps shall be fixed 30cms apart and on CC block embedded to masonry wall. The whole works include excavation in all types of soils, watering, curing, barricading, danger lighting,pouring tar over MH frame and cover, cost of tar, shoring, strutting,de-watering, engraving manhole number with flow direction on the inner coNickel surface etc. as per the drawing etc. as per technical specifications and for the following diameters and depth etc. for:.								
11.1.a	**Constructing Brick Masonry Circular Manholes 1.2 m internal dia. & 2.0 M depth include SFRC F&C (BWSSB SR 17-18 Code:T300M)**	No	4				4	30,795.00	123180.00
11.1.b	**Depth above 2m and below 3 m (44961-30795) = 14166/-**	m	3.80				3.8	14,166.00	53830.80
11.1.c	**Constructing Brick Masonry Circular Manholes 1.2 m internal dia. & 3.0 M depth include SFRC F&C (BWSSB SR 17-18 Code:T300N)**	Nos	-				-	44,961.00	0.00
12	Conducting the level and strip of SURVEY of alignment of Main sewers of required diameter including all data required for generating GIS map of sewer network, preparation and submission of plan and LS with ground level at 30 M intervals and junction points along the centre line of the alignment etc. showing the right of way, any permanent features, culverts, branch sewer pipe etc. complete as per specifications and as directed by the Engineer in charge with all lead and lifts etc. complete for:: **Sewer pipes above 300 mm dia.** **(BWSSB SR 17-18 123.2 Code:T475B)**	RMT							
	MH 6-7		1	42.80			42.80		
	MH 7-8		1	36.60			36.60		
	MH 8-9		1	41.40			41.40		
	Total			120.80			120.80	28.00	3382.40
13	Providing, erecting and removing casurina pole three tier BARRICADING using poles of 7.5 to 10 cms dia. and 1.5M height above ground fixed vertically at intervals of 2.0 to 2.5 M centre to centre and horizontally at 0.5M above ground level, including fixing poles in ground for a maximum depth of 0.3M and tied with coir rope firmly including cost and conveyances of all materials, labour, lead and lifts charges etc. complete.	RMT							
	MH 6-7		1	42.80			42.80		
	MH 7-8		1	36.60			36.60		
	MH 8-9		1	41.40			41.40		

	Total			120.80			120.80	52.00	6281.60
15	KSRRB M400-6.1 : Construction of granular sub-base by providing close graded cushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications. A. Plant Mix Method For Grading-II Material (KPWD SR 18-19 ITEM 20.4.2 PAGE-155)	Cum							
	MH 6-7		1	42.80	1.00	0.20	8.56		
	MH 7-8		1	36.60	1.00	0.20	7.32		
	MH 8-9		1	41.40	1.00	0.20	8.28		
	Total Rate = Basic + AW = Rs 2049.0 +6%AW= Rs 2171.94			120.80			24.16	2171.90	52473.10
16	KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No. 406 (KPWD SR 18-19 ITEM 20.18 PAGE-156)	Cum							
	MH 6-7		1	42.80	1.00	0.15	6.42		
	MH 7-8		1	36.60	1.00	0.15	5.49		
	MH 8-9		1	41.40	1.00	0.15	6.21		
	Total Rate = Basic + AW = Rs 1573.0 +6%AW= Rs 1667.38			120.80			18.12	1667.00	30206.04
								Total Estimated Amount	**9,10,302.18**
		GST Charges 12% (Sl NO 6 & 15-16)							**20,117.26**
		Cost towards PMC / Third Party inspection LS							**13655.00**
		KRIDL Charges 4%							**36412.00**
								Sub Total	**980486.44**
		Advertisement Charges and Miscellaneous and rounding off							**19513.56**
								Total	**1000000.00**

Certificate.

1 The workspot was inspected and work is found to be necessary.
2 The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3 The provisions made in the estimate are necessary and essential.

Assistant Engineer

Assistant Executive Engineer

Executive Engineer 01/02

01/02

ADMINISTRATIVE APPROVAL

Accorded For Rs. Ten lakhs only

Head of A/c. P-3295 (14th Fin.)

Div. Ref. No. 64/18-19 Date. 01/02/19

AE

EE(BTP) 01/02

TECHNICAL SANCTION

Accorded For Rs. Ten lakhs only

Head of A/c. P-3295

Div. Ref. No. 108/18-19 Date. 01/02/19

AE

EE(BTP) 01/02